



Geochemical and Geophysical Factors in Determining of ore Bearing Structures of Artana Ore Field

Sali Mulaj*, Rrahim Kelmendi, Xhavit Raci

Independent Commission for Mines and Minerals (ICMM), St. Armend Daci No.1, 10000 Prishtina, Kosovo;

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Abstract: Artana ore field is situated in the East Vardar sub subzone, its surface is about 25.5 km². It is one of the most explored areas of Merdare longitudinal fault. The common structural features are conditioned by the position and relationship between Dardania massive and Veles series. Formation of tectonic - structural environment has been developed over a long geological period of time, from Paleozoic to Tertiary and that during two main stages, Hercenic and Alpine orogenesis. In geological-structural settings of Artana ore field are delineated two common structures which represent the main factor for Pb-Zn mineralization and other metal associations. The main orientation of these structures differs from Dinaride on the south, to Vardar orientation to the north. Based on the interpretation of Geological survey of Artana mine, airborne geophysical interpretation (magnetic and radiometric), and based on geochemistry of stream sediment sampling, we did reinterpretation of common ore mineralization structures of Artana ore field, particularly on their south extension. By this study, we concluded that, airborne magnetic and radiometric geophysical survey is the best determining factor of common ore mineralization structures. While by the interpretation of geochemical river and stream sediment analysis Cd distribution in the river and stream sediments could be considered determining element for polymetallic sulphide minerals.

Keywords: *Artana ore field, structures, Geophysics, River-stream sediments, sulphide.*

*Corresponding: E-Mail: smulaj@kosovo-mining.org Tel: +377 0 (44) 210 506; Fax: + 381 0 (38) 245 844